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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/823,792

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Ville Ruutu

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4681

32294

7590

10/16/2008

SQUIRE, SANDERS & DEMPSEY L.L.P.

8000 TOWERS CRESCENT DRIVE

14TH FLOOR

VIENNA, VA 22182-6212

EXAMINER

STEPHEN, EMEM O

ART UNIT

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DELIVERY MODE

10/16/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/823,792	Applicant(s) RUUTU ET AL.	
	Examiner EMEM STEPHEN	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06/19/2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1, 3-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 06/19/2008 have been fully considered but they are not persuasive.

The Applicant's argument that the combination of Larsson and Heinonen fails to disclose or suggest self-learning based on historical data is not persuasive for the reason that Heinonen discloses **calculating an estimate for the location of a mobile using history data i.e. previous estimates to make the estimating more accurate** (par.5), utilizes location-dependent parameters available from a mobile network for determining the location of the mobile terminal, denoted as a parameter set (par. 9). A matrix is formed for a parameter set received from the mobile network. Each element of the matrix corresponds to a certain geographical area and contains a value which indicates the probability that the respective mobile is within the said area; matrix formed for a mobile is stored as history data to be used in connection with a subsequent parameter set received for the mobile, matrix stored earlier are continuously updated. The location estimate is then determined on the basis of the element values of the matrix corresponding to the current parameter set and the element values of the matrix with the updated values (par. 10). "Thus the invention utilizes

Art Unit: 2617

history data in the form of at least one previously formed matrix, which is updated according to the estimated movement of the mobile," "the accuracy of the system can hereby be improved by processing the current matrix by one or more previous matrices associated with the mobile in question (par. 11)."

The Applicant's specification states "utilization of history data to provide selection criteria to select proper location measurement units. This **may provide self learning based upon historical good quality measurements** (par. 51)." It is therefore clear that Heinonen discloses the applicant's argued limitation of self learning.

The applicant further argues that the combination fails to disclose "that have historically provided measurement information that satisfies a predetermined criteria," but contradict himself on pg 17 of his argument when it states that the history matrix of Heinonen's is combined with a current matrix determined by the system based on a set of predetermined rules. Thus Heinonen discloses historical measurement information that satisfies predetermined criteria.

Lastly, Larsson discloses providing selection information for selection of measurement devices for future location determinations (see abstract, fig.6, 13 step 131, 14, col. 2 lines 5-29, and col. 4 lines 19-42, database contains information to aid in the selection of measurement device, i.e., information on LMU's closest to the middle of the location). However, Larsson does not disclose

Art Unit: 2617

wherein the providing selection information comprises self-learning based upon historical quality information associate with the measurement devices, which is disclosed by Heinonen as already stated above. Therefore, the combination of Larsson and Heinonen discloses the Applicant's argued limitations above, and therefore, the rejections are maintained.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor

Art Unit: 2617

and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1, 3-20, and 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,282,427 B1 to Larsson et al. (Larsson) in view of US Pub. No. 20030069027 A1 to Heinonen et al.

Regarding claims 1, 7, 12, 16, 20, 22, and 24-25, Larsson discloses a method, an apparatus, and a system (see figs. 6-7, col. 1 lines 6-18, and col. 3 lines 20-26) comprising: providing quality information associated with location determination by at least two measurement devices (col. 3 line 35-col. 4 line 10, and col. 8 lines 32-64); storing said quality information and identity information associated with the at least two measurement devices (col. 4 lines 16-19); and providing selection information for selection of measurement devices for future location determinations, based upon the stored quality and identity information (col. 2 lines 15-29, col. 4 lines 19-42, and col. 5 lines 5-65 inherently, selection of measurement device is for future location determination).

However, Larsson fails to specifically disclose past measurements, and wherein the providing selection information comprises self-learning based upon historical quality information associate with the measurement devices.

Heinonen discloses past measurements, and wherein the providing selection information comprises self-learning based upon historical quality information associate with the measurement devices (pars. 9-12, and 26-32).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Larsson, and have past measurements, and wherein the providing selection information comprises self-learning based upon historical quality information associate with the measurement devices as disclosed by Heinonen for the purpose of selecting best measurement device in order for improving accuracy of computation of user equipment location.

Regarding claims 6 and 23, Larsson discloses a method and system comprising: triggering a location process (see figure 6, and col. 1 lines 6-18); obtaining selection information for selection of at least one measurement device, the selection information including information of measurement devices that satisfies a predefined criteria (col. 3 line 35-col. 4 line 20); selecting at least one measurement device (col. 4 lines 21-33); and locating user equipment based on measurement information from the selected at least one measurement device (col. 4 lines 31-33).

However, Larsson fails to specify the selection information including information of measurement devices that have historically provided measurement information.

Heinonen discloses a method and system acquiring location information to aid in locate a remote unit (par. 9), selection information including information of measurement devices that have historically provided measurement information (pars. 9-12 and 26-32).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Larsson, and have the

Art Unit: 2617

selection information including information of measurement devices that have historically provided measurement information as disclosed by Heinonen for the purpose of improving accuracy of computation of user equipment.

Regarding claim 3, the combination of Larsson and Heinonen discloses the method of claim 1, wherein the step of providing selection information comprises ranking possible measurement devices based upon historical quality information associated with measurement devices (Larsson col. 4 lines 19-33, and col. 4 lines 55-58).

Regarding claim 4, the combination of Larsson and Heinonen discloses the method of claim 3, comprising the further step of selecting proper measurement devices based on the ranking (Larsson col. 4 lines 19-33, and col. 4 lines 55-58).

Regarding claim 5, the combination of Larsson and Heinonen discloses the method of claim 1, comprising storing information identifying at least one cell of a mobile system (Larsson col. 4 lines 16-19).

Regarding claims 8-11, and 15, the combination of Larsson and Heinonen discloses wherein the self-learning comprises maintaining a self-learning table wherein look-up parameters are matched with information regarding success of measurements by measurement devices obtained after a location attempt (Heinonen, see figs. 4, and 7-9).

Regarding claim 13, the combination of Larsson and Heinonen discloses the system of claim 12, wherein the quality controller, the storage and the selection controller are provided in a location service element of a mobile system (Larsson, see figure 7).

Regarding claim 14, the combination of Larsson and Heinonen discloses the system of claim 12, comprising a location service element configured to select at least one measurement device based upon selection information, the selection information including information of measurement devices that have historically provided measurement information that satisfies a predefined criteria, and to locate a user equipment based on measurement information from selected at least one measurement device (Larsson col. 3 lines 35-col. 4 lines 42).

Regarding claim 17, the combination of Larsson and Heinonen discloses the apparatus of claim 16, wherein the processor is configured to provide deciding means for deciding which location measurement units can be used to locate a particular mobile user equipment (Larsson, see figure 7, and col. 4 lines 43-58, i.e. distance determiner).

Regarding claim 18, the combination of Larsson and Heinonen discloses the apparatus of claim 16, comprising a serving mobile location center (Larsson,

Art Unit: 2617

i.e. mobile location center, base station controller, col. 3 lines 1-13).

Regarding claim 19, the combination of Larsson and Heinonen discloses the apparatus of claim 16, comprising a separate network element connected to a serving mobile location center (Larsson, see figure 1, i.e. external application).

5. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,968,195 B2 to Nowak in view of Heinonen.

Regarding claim 21 Nowak discloses a computer program (see fig. 8) comprising program code configured to perform a method when the program is run on a computer, the method comprising: providing quality information of location measurements by a plurality of measurement devices of a first types (col. 15 line 44-col. 16 line 59); obtaining selection information for selection of at least one of said plurality of measurement devices of a first type to use for future location determinations based upon the quality information (see figures 4-7, col. 3 lines 39-53, col. 4 lines 22-61, col. 5 lines 2-11, and col. 11 line 45-col. 14 line 62, col. 16 lines 10-19, and col. 16 lines 63-67).

However, Nowak fails to disclose self-learning based upon the quality information associated with the quality of results of past measurements.

Heinonen discloses self-learn based upon the quality information associated with the quality of results of past measurements (pars. 9-12, and 26-32).

Art Unit: 2617

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Nowak, and have self-learning based upon the quality information associated with the quality of results of past measurements as disclosed by Heinonen for the purpose of efficiently locating a user equipment.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to applicant's invention:

U.S. Pub. No. 20010014604 A1 to Kingdon et al.

U.S. Pat. No. 7123928 B2 to Moeglein et al.

U.S. Pub. No. 20040192330 A1 to Gaal

U.S. Pub. No. 20030069027 A1 to Heinonen et al.

U.S. Pub. No. 2004013464 A1 to Poykko et al.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

Art Unit: 2617

calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EMEM STEPHEN whose telephone number is 571 272 8129. The examiner can normally be reached on 8-5 Mon-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on 571 272 7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 2617

If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ES

10/02/08

/Charles N. Appiah/
Supervisory Patent Examiner, Art Unit 2617